APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,710	04/13/2006	Janne Vaananen	0365-0674PUS1	3257

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EXAMINER
FAROUL, FARAH

ART UNIT	PAPER NUMBER
2471	

NOTIFICATION DATE	DELIVERY MODE
05/06/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

	Application No.	Applicant(s)
Office Action Summary	10/575,710	VAANANEN, JANNE
	Examiner	Art Unit
	FARAH FAROUL	2471

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _January 29, 2010_.
2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-4_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-4_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on _12 February 2009_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some * c)☐ None of:
      1.☒ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   The following Office Action is based on the amendment filed on January 29,

2010, having claims 1-4.

Claim Objections

2.   Claims 1 and 3 are objected to because of the following informalities:

Claim 1 recites the limitation "groups **including** at" in line 6. The word "including"

should be changed to "includes" to render the claim positive.

Claim 3 recites the limitation "**including** at least" in line 9. The word "including"

should be changed to "includes" to render the claim positive.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

    1.   Determining the scope and contents of the prior art.
    2.   Ascertaining the differences between the prior art and the claims at issue.
    3.   Resolving the level of ordinary skill in the pertinent art.

4.   Considering objective evidence present in the application indicating
obviousness or nonobviousness.

i.   Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Robotham (US 2004/0100967 A1) in view of admitted prior art (hereinafter APA)

included in the application.

ii.   As per claim 1, Robotham teaches *a method for performing aggregate-portion-*

specific flow shaping in packet-switched telecommunications (Robotham, paragraph

[0001] teaches a method for scheduling aggregation-related data traffic flow)*, in*

which method:

-    *Transferring digital information as constant or variable-length packets as at least two*

separate traffic flows, the traffic flows forming an aggregate flow (Robotham, figure

1, shows data coming to the network from a number of users (elements 110) running

unspecified applications, which generate packets of constant or variable length,

figure 3A, elements 301A, 301B, 307A, 307B, 307C, 307D are separate traffic flows

arriving at the system).

-    *defining at least two shaping groups, each shaping group being a portion of the*

aggregate flow and including at least one of the traffic flows and at least one of the

shaping groups including at least two of the traffic flows (Robotham, figure 3A,

elements 301A and 301B form a shaping group which is shaped in scheduler 302

and elements 307A and 307B form another shaping group).

Setting restrictions of speed properties for the at least two shaping groups
(Robotham, paragraph [0042], line 12, teaches that rate limiting is performed in a
scheduler, which handles a shaping group that includes at least two traffic flows as
shown in figure 3A, element 308A for instance).

Robotham does not teach defining *an earliest permitted moment, at which a packet*
in the system can be forwarded by the multiplexer, is defined as the greatest value
of the VTS values of at least two shaping groups, to which a traffic flow represented
by the packet belongs; and as a result of the forwarding of the packet, the VTS
values of the same shaping groups (k) are updated, in which the VTS value of an
individual shaping group (k) expresses the earliest permitted moment, at which a
packet belonging under the relevant shaping group (k) can be forwarded, without
breaking the restrictions of the speed properties of the shaping group (k) being
examined. However admitted prior art included in the application teaches forwarding
packets of variable length to at least one buffer memory (see FIFO queue in Figure
1); *the earliest permitted moment, at which a packet in the system can be forwarded*
from the system, is defined as the greatest value of the VTS values of all the
shaping groups (k), to which shaping groups (k) the traffic flow (V1-VL) represented
by the packet belongs (Specification, page 2, line 24 states that figure 1 and the
subsequent discussion related to figure 1 are prior art. Specification, equation 3 on
page 3, line 17 teaches that if there are more than one VTS values, each associated
with one restriction on the packet flow, then the greatest VTS value will be selected.

Applying the same rule, when there are more than one VTS values, each

associated with one or more shaping groups, then the greatest VTS value will

be selected); *and as a result of the forwarding of the packet, the VTS values of the*

same shaping groups (k) are updated, in which the VTS value of an individual

shaping group (k) expresses the earliest permitted moment, at which a packet

belonging under the relevant shaping group (k) can be forwarded, without breaking

the restrictions of the speed properties of the shaping group (k) being examined

(Specification, page 3, equations 1 and 2 show the parameters VTS_CIR$_{next}$ and

VTS_CIR$_{prev}$, VTS_PIR$_{next}$ and VTS_PIR$_{prev}$. The subscripts *prev* and *next* show

an updating process for the parameters VTS_CIR and VTS_PIR from which the

VTS for a packet is selected according to equation 3, which ensures that no

speed properties of the examined entity are broken according to Specification,

page 3, line 13).

Thus it would have been obvious to one of ordinary skill in the art at the time the

invention was made to implement *the earliest permitted moment, at which a packet*

in the system can be forwarded from the system, is defined as the greatest value of

the VTS values of at least two shaping groups (k), to which shaping groups (k) the

traffic flow represented by the packet belongs; and as a result of the forwarding of

the packet, the VTS values of the same shaping groups (k) are updated, in which the

VTS value of an individual shaping group (k) expresses the earliest permitted

moment, at which a packet belonging under the relevant shaping group (k) can be

forwarded, without breaking the restrictions of the speed properties of the shaping

group (k) being examined of **the admitted prior art into Robotham, since**

Robotham teaches shaping aggregation traffic flows by groups (something

broad) in general and the admitted prior art suggests the beneficial use of the

maximum VTS to send a packet when more than one VTS are available as a

result of more than one restrictions on the relevant traffic flow, such as to

ensure that all speed properties of that flow are taken into account (admitted

prior art in Specification page 3, lines 13-17) in the analogous art of data

communications.

iii.   As per claim 2, Robotham and the admitted prior art teach claim 1. Robotham also

teaches *the traffic flows contained in a first shaping group (k) are all also included in*

a second shaping group (hierarchal shaping) (Robotham, figures 3A and 3B show a

hierarchal system of shaping groups. For example, in figure 3B, flows 317A and

317A' belong to the group shaped in 319A, the group shaped in 308A, and the group

shaped in 312).

iv.   As per claim 3, Robotham teaches *a system for performing aggregate-portion-*

specific flow shaping in packet-switched telecommunications (Robotham, paragraph

[0001] teaches a system for scheduling aggregation-related data traffic flow)*, in*

which the equipment includes:

- *means for receiving constant or variable-length packets carrying digital information* (Robotham, figure 1, shows data coming to the network from a number of users (elements 110) running unspecified applications, which generate packets of constant or variable length, then received by element 102 which is an access node).

- *a controller configured to:*

- *classify a packet arriving in the system as representing one of the traffic flows arriving in the system* (Robotham, figure 3A, elements 301A, 301B, 307A, 307B, 307C, 307D are separate traffic flows arriving at the system, each packet is classified according to source (C1, C2) and real-time/non real-time characteristics).

- *define at least two shaping groups in the system, each shaping group including* at least one of the traffic flows and at least one of the shaping groups including at least two of the traffic flows (Robotham, figure 3A, elements 301A and 301B form a shaping group which is shaped in scheduler 302).

- *set restrictions for the speed properties for the at least two shaping groups* (Robotham, paragraph [0042], line 12, teaches that rate limiting is performed in a scheduler, which handles a shaping group that includes at least two traffic flows as shown in figure 3A, element 308A for instance).

- *means for forwarding packets to an outgoing link or links* (Robotham, figure 3A, element 318 shows traffic coming out to a 10Mbps link, which implies an inherent means for forwarding packets to that link.)

Robotham does not teach *means, which the aid of which it is possible to define the*

earliest permitted moment, at which a packet in the system can be forwarded, as the

largest value of all the VTS values of the shaping groups (k), to which shaping

groups (k) the traffic flow represented by the packet belongs; and with the aid of

which means it is possible to update the VTS values of the same shaping groups (k)

as a consequence of forwarding the packet, in which the VTS value of an individual

shaping group (k) expresses the earliest permitted moment, at which a packet under

the shaping group (k) in question can be forwarded, without breaking the restrictions

of the speed properties of the shaping group being examined. However admitted

prior art included in the application teaches *means, which the aid of which it is*

possible to define the earliest permitted moment, at which a packet in the system

can be forwarded, as the largest value of all the VTS values of the shaping groups

(k), to which shaping groups (k) the traffic flow represented by the packet belongs

(Specification, page 2, line 24 states that figure 1 and the subsequent discussion

related to figure 1 are prior art. Figure 1 of admitted prior art in the Specification

contains the Shaper (SH) as the means to perform the functions discussed below.

Specification, equation 3 on page 3, line 17 teaches that if there are more than one

VTS values, each associated with one restriction on the packet flow, then the

greatest VTS value will be selected. **Applying the same rule, when there are more**

than one VTS values, each associated with one or more shaping groups, then

the greatest VTS value will be selected); *and with the aid of which means it is*

possible to update the VTS values of the same shaping groups (k) as a

consequence of forwarding the packet, in which the VTS value of an individual

shaping group (k) expresses the earliest permitted moment, at which a packet under

the shaping group (k) in question can be forwarded, without breaking the restrictions

of the speed properties of the shaping group being examined **(Specification, page**

3, equations 1 and 2 show the parameters VTS_CIR$_{next}$ and VTS_CIR$_{prev}$,

VTS_PIR$_{next}$ and VTS_PIR$_{prev}$. The subscripts *prev* **and** *next* **show an updating**

process for the parameters VTS_CIR and VTS_PIR from which the VTS for a

packet is selected according to equation 3, which ensures that no speed

properties of the examined entity are broken according to Specification, page

3, line 13).

Thus it would have been obvious to one of ordinary skill in the art at the time the

invention was made to implement *means, which the aid of which it is possible to*

define the earliest permitted moment, at which a packet in the system can be

forwarded, as the largest value of all the VTS values of the shaping groups (k), to

which shaping groups (k) the traffic flow represented by the packet belongs; and with

the aid of which means it is possible to update the VTS values of the same shaping

groups (k) as a consequence of forwarding the packet, in which the VTS value of an

individual shaping group (k) expresses the earliest permitted moment, at which a

packet under the shaping group (k) in question can be forwarded, without breaking

the restrictions of the speed properties of the shaping group being examined of the

admitted prior art into Robotham, since Robotham teaches shaping aggregation

traffic flows by groups (something broad) in general and the admitted prior art suggests the beneficial use of the maximum VTS to send a packet when more than one VTS are available as a result of more than one restrictions on the relevant traffic flow, such as to ensure that all speed properties of that flow are taken into account (admitted prior art in Specification page 3, lines 13-17) in the analogous art of data communications.

v.   As per claim 4, Robotham and the admitted prior art teach claim 3. Robotham also teaches *the equipment includes means, with the aid of which it is possible to define all the traffic flows (V1-VL) contained in at least one shaping group (k) as belonging to some second shaping group (hierarchal shaping)* (Robotham, figures 3A and 3B show a hierarchal system of shaping groups. For example, in figure 3B, flows 317A and 317A' belong to the group shaped in 319A, the group shaped in 308A, and the group shaped in 312).

Response to Arguments

4.   Applicant's arguments filed January 29, 2010 have been fully considered but they are not persuasive. Applicant has argued (arguments, pages 8-9) that "there is nothing in the cited prior art or the APA that would teach, suggest, or motivate a person skilled in the art to apply the rule indicated in equations (1)-(3), which is related to a single traffic flow, to the situation as recited in the independent claims". The examiner respectfully disagrees. The APA (page 2, lines 10-17) recites the following: "VTS CIR -

The earliest moment in time, after which the next packet representing a specific traffic

flow, **or shaping group** may be forwarded, in order that the greatest permitted mean

speed and/or the greatest permitted burst size will not be exceeded.

VTS PIR - The earliest moment in time, after which the next packet representing a

specific traffic flow, or **shaping group** may be forwarded, in order that the greatest

permitted momentary speed will not be exceeded. (Emphasis added)" Thus, it is clear

that the VTS values may relate to a shaping group, rather than a single traffic flow.

Robotham discloses that the shaping group may include one or more traffic flows

(Robotham, figure 3A, elements 301A and 301B form a shaping group which is shaped

in scheduler 302 and elements 307A and 307B form another shaping group). Thus, it

would have been clear to one skilled in art based on the combination of Robotham and

the APA to select the transmission time based on a maximum of the VTS values to

ensure that all speed properties of the traffic flows are taken into account. The added

limitations do not overcome the rejection. The rejection is, thus, maintained.

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. See PTO-892 form.

6.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to FARAH FAROUL whose telephone number is (571)270-

1421. The examiner can normally be reached on M - F 7:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chi H. Pham can be reached on 571-272-3179. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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